

The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

Paper No. 29

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

MAILED

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PAT. & T.M. OFFICE  
BOARD OF PATENT APPEALS  
AND INTERFERENCES

Ex parte JONATHAN S. NIMITZ and LANCE H. LANKFORD

Appeal No. 2002-0711  
Application No. 08/269,323

ON BRIEF

Before WALTZ, DELMENDO, and PAWLIKOWSKI, Administrative Patent Judges.

WALTZ, Administrative Patent Judge.

#### DECISION ON APPEAL

This is a decision on an appeal from the primary examiner's final rejection of claims 157, 158, 160 through 167, 169 through 175, and 177 through 179.<sup>1</sup> Claims 168 and 176, the only remaining claims in this application, stand objected to as dependent on a rejected claim but allowable if rewritten in

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<sup>1</sup>Appellants submitted an amendment after the final rejection but this amendment was refused entry by the examiner (see the amendment dated May 5, 1997, Paper No. 18, refused entry as per the Advisory Action dated May 27, 1997, Paper No. 20).

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independent form including all of the limitations of the base claims and any intervening claims (final Office action remailed Feb. 5, 1997, Paper No. 16, page 6, and the Brief, page 2). We have jurisdiction pursuant to 35 U.S.C. § 134.

According to appellants, the invention is directed to fire-extinguishing methods which comprise providing a fire-extinguishing agent consisting essentially of an azeotropic or near azeotropic blend of fluoriodocarbon and at least one additive selected from the group consisting of hydrofluorocarbons, perfluorocarbons and fluoroethers, in a discharge apparatus, and discharging a fire-extinguishing amount of the agent into contact with a combustible or flammable material (Brief, page 2).

Appellants state that each of the claims are "independently patentable" from one another (Brief, page 3). However, the only reasons presented by appellants to support the separate patentability of each claim is the mere repetition of the claim limitations on pages 6-8 of the Brief with the assertion that the applied reference does not teach or suggest the claimed method. These "reasons" are not specific, substantive reasons that set forth the arguments for separate patentability of each claim. See *In re Herbert*, 461 F.2d 1390, 1391, 174 USPQ 259, 260 (CCPA

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1972), and 37 CFR § 1.192(c)(7)(8)(1997). Accordingly, we select claim 157 from the grouping of claims and decide the ground of rejection in this appeal on the basis of this claim alone.

Illustrative independent claim 157 is reproduced below:

157. A method of using a fire extinguishing agent, comprising the steps of:

(a) providing a fire-extinguishing agent consisting essentially of an azeotropic or near azeotropic blend of fluoriodocarbon and at least one additive selected from the group consisting of hydrofluorocarbons, perfluorocarbons and fluoroethers, in a discharge apparatus; and

(b) discharging a fire-extinguishing amount of the fire extinguishing agent from the discharge apparatus into contact with a combustible or flammable material.

The examiner has relied upon the following reference as evidence of obviousness:

"Technical Report," pp. 1-333, Final Report on Fire-Extinguishing Agents under Contract W44-007 eng-507, Purdue University, July, 1950 (hereafter "Technical Report").

The claims on appeal stand rejected under 35 U.S.C. § 103(a) as unpatentable over the Technical Report (Answer, page 3). We *affirm* this rejection essentially for the reasons set forth in the final Office action, Paper No. 16, the Answer, and those reasons set forth below.

#### OPINION

The examiner finds that the Technical Report discloses that certain fluoriodoalkane compounds are effective as fire-

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extinguishing agents (final Office action, Paper No. 16, page 2, citing Table I, pages 9-10, Table II and Table VII of the Technical Report). Furthermore, the examiner finds that the Technical Report "directly suggests" the use of binary mixtures of halogenated carbons and halogenated hydrocarbons as fire-extinguishing agents (*id.*). The examiner also finds that fluoriodocarbons are taught as useful in mixtures by the Technical Report, as well as various perfluorocarbons and fluorohydrocarbons (*id.* at page 3). Finally, the examiner finds that, on page 39 of the Technical Report, the reference teaches binary mixtures having a boiling point, not a boiling range, thus suggesting azeotropic or near azeotropic blends (*id.*).

From these findings, the examiner concludes that, since the reference teaches some of the claimed species of fluoriodocarbons, perfluorocarbons, and hydrofluorocarbons as individually useful as fire-extinguishing agents, while teaching and suggesting binary mixtures of halogenated carbons and halogenated hydrocarbons as fire-extinguishing agents, it would have been *prima facie* obvious to one of ordinary skill in this art to combine two or more materials for the same purpose that

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they are individually useful (*id.*, at page 5, citing *In re Kerkhoven*, 205 USPQ 1069 (CCPA 1980)).<sup>2</sup> We agree.

Appellants argue that there is no teaching or suggestion in the Technical Report relating to mixtures of fluoriodocarbon compounds with one or more hydrofluorocarbons, perfluorocarbons or fluoroethers (Brief, page 5). Appellants submit that no binary mixtures containing a fluoriodocarbon can be found in the reference (*id.*).

Appellants are correct that there are no specific examples in the Technical Report directed to binary mixtures containing a fluoriodocarbon compound (see pages 244 et seq.). However, a reference is not limited to its examples but is available for all that it teaches or suggests to one of ordinary skill in the art. See *In re Widmer*, 353 F.2d 752, 757, 147 USPQ 518, 523 (CCPA 1965). As discussed above, the examiner has found many species of individual compounds disclosed by the Technical Report as fire-extinguishing agents, which compounds are within the scope

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<sup>2</sup>See *In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980). See also *In re Crockett*, 279 F.2d 274, 276, 126 USPQ 186, 188 (CCPA 1960); *In re Sussman*, 136 F.2d 715, 718, 58 USPQ 262, 264 (CCPA 1943); *Ex parte Quadranti*, 25 USPQ2d 1071, 1072 (Bd. Pat. App. & Int. 1992). Note that *Crockett* is cited with approval in *Merck & Co. v. Biocraft Labs., Inc.*, 874 F.2d 804, 808, 10 USPQ2d 1843, 1847 (Fed. Cir. 1989); cf. *In re Geiger*, 815 F.2d 686, 2 USPQ2d 1276 (Fed. Cir. 1987).

of the claims.<sup>3</sup> Furthermore, the examiner has found many suggestions of using binary mixtures of fire-extinguishing agents. Therefore we do not find persuasive appellants' argument that the Technical Report does not teach or suggest the claimed mixtures.

Appellants argue that the Technical Report specifically states that "no generalizations" can be made regarding choice of constituents in a mixture of firefighting agents (Brief, page 6, quoting from the paragraph bridging pages 2-3 of the Technical Report; Reply Brief, page 2). Appellants further argue that on page 62 of the reference some mixtures are taught as having improved fire-extinguishing properties while other mixtures have inferior properties (*id.*). Accordingly, appellants argue that there is no motivation in the reference for a successful combination of any of the individual compounds. Appellants submit that the examiner's reliance on *Kerkhoven* is inappropriate where the cited prior art itself teaches that the effectiveness of binary mixtures is unpredictable and, at most, is merely "obvious to try" (Brief, pages 6 and 10-11).

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<sup>3</sup>We note that appellants admit that it was known in this art that trifluoriodomethane was a firefighting agent (specification, pages 5 and 9), and that perfluorocarbons and some fluoroiodocarbons have "future potential as firefighting agents" (specification, pages 4 and 9).

Appellants' arguments are not persuasive. Appellants are correct that the Technical Report teaches that "no generalizations" can be made regarding the choice of compounds useful in a binary mixture (paragraph bridging pages 2-3). However, obviousness does not require absolute predictability of success, but all that is required is a reasonable expectation of success. See *In re O'Farrell*, 853 F.2d 894, 903, 7 USPQ2d 1673, 1681 (Fed. Cir. 1988). The Technical Report teaches that binary mixtures of halogen compounds with various boiling points are often necessary to provide for a self-propelling fire extinguishing agent (page 39). This reference further teaches the research necessary to determine the effectiveness of binary mixtures of halogen containing compounds as fire-extinguishing agents, including plots to determine if the combination of agents was more, equal to, or less effective than expected from linear addition of the properties (page 42). From these teachings, even with the "no generalization" teaching on pages 2-3, we determine that it would have been reasonably within the ordinary skill in this art to determine the effectiveness of any binary mixture of known firefighting agents. Obviousness is tested by what the entire disclosure of the applied prior art would have suggested

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to one of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981).

Appellants further argue that there is no teaching or suggestion in the Technical Report of an azeotropic or near azeotropic blend of compounds (Brief, page 6).<sup>4</sup> Appellants also argue that the examiner has no support for the position that the reference suggests azeotropic blends since only a boiling point is disclosed for various binary mixtures (Brief, pages 6-7).

Appellants' arguments are not persuasive. The Technical Report teaches the ranges of boiling points necessary to provide a self-propelling binary mixture of fire-extinguishing agents (page 39), similar to those taught by appellants (specification, page 13, ll. 34-37). The term "near azeotropic blend" encompasses such a breadth that any binary mixtures suggested by the applied reference would be within the scope of this term. Furthermore, as argued by the examiner, the disclosure of a single boiling point for binary mixtures by the reference suggests that the blend does not have a boiling point range and does not separate from each other, and thus is an azeotropic or "near azeotropic" blend.

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<sup>4</sup>We note that neither appellants nor the examiner have construed the term "near azeotropic." We also note that there is no definition or limits to this term in the specification.



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For the foregoing reasons and those set forth in the Answer, we determine that the examiner has established a *prima facie* case of obviousness in view of the reference evidence. Based on the totality of the record, including due consideration of appellants' arguments, we determine that the preponderance of evidence weighs most heavily in favor of obviousness within the meaning of section 103. Accordingly, we affirm the examiner's rejection of the claims on appeal under 35 U.S.C. § 103(a) over the Technical Report.


#### **OTHER ISSUES**

We note that the examiner has indicated that claims 168 and 176 are allowable since the Technical Report does not disclose any fluoroethers as fire-extinguishing agents (final Office action, Paper No. 16, page 6). However, upon return of this application to the jurisdiction of the examiner, the examiner and appellants should review the disclosure of fluoroethers as "test materials" on page 126 of the Technical Report, and determine whether these compounds have or were known in the art to have fire-extinguishing properties.

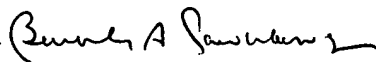
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No time period for taking any subsequent action in  
connection with this appeal may be extended under 37 CFR  
§ 1.136(a).

**AFFIRMED**

  
Thomas A. Waltz )  
Administrative Patent Judge )

  
Romulo H. Delmendo ) BOARD OF PATENT  
Administrative Patent Judge ) APPEALS  
AND  
INTERFERENCES )

  
Beverly A. Pawlikowski )  
Administrative Patent Judge )

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